



International Conference on Learner Diversity 2010

## Learning to Develop Creativity and Innovation: A Case Study of Selected Schools

Nor Foniza Maidin<sup>a</sup>, Mohd Izham Mohd Hamzah<sup>b,\*</sup>

<sup>a</sup>Ministry of Higher Education, 62505, Putrajaya, Malaysia

<sup>b</sup>Faculty of Education, Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor, Malaysia

---

### Abstract

The experience, knowledge and skills that teachers develop will help them to be innovative, creative and make wise decisions. The researcher developed explanations for complex adult learning phenomena from the perspective of a qualitative case study method. Overall, teachers practice various types of learning due to the learning climate and learning attributes. Learning process has always been a medium that needs to be explored, adopt and adapted according to the time line. Yet, there are mainly two factors that discourage learning among teachers. Ideas of being oneself are important and becoming the universal value is an asset.

© 2010 Published by Elsevier Ltd. Open access under [CC BY-NC-ND license](#).

**Keywords:** Learning Organization; Creative; Innovative; Learning attribute; Adult learning

---

### 1. Introduction

Malaysia is currently undergoing a paradigm shift, with a transformation from production-based economy to the knowledge-based economy. Undeniably, human resource development is a requirement in preparing Malaysia to sustain growth and development during this period. Education and training reforms will be crucial in the creation of knowledge man power to support economic activities and develop an information-rich society. The global competition, rapid change in technology and high demands prompted companies including schools to ensure continuous new knowledge is being created, transferred and shared in an organization.

Learning is a primary aspect of education. Students being young or adult, embark on learning in order to gain knowledge and skills in various field. Yet, learning among adults is more sophisticated and complex. Basically learning is the activity of the individual who learns be it intentional or at Learning process is natural, continuous, unavoidable, and occur spontaneously within the organism (Steward, 1992). It is discernible at both individual and organizational level. According to Buckler (1996), there are three ingredients to make learning effective: 1) purpose for learning, 2) environment which facilitates learning and 3) techniques to enable efficient learning. Kelleher (1996) mention three dimension in a learning organization: 1) individual learning, 2) team learning and 3) organization learning.

---

\*Corresponding author. Tel.: +603-89216240; Fax: 603-89254372  
E-mail address: [izham@ukm.my](mailto:izham@ukm.my)

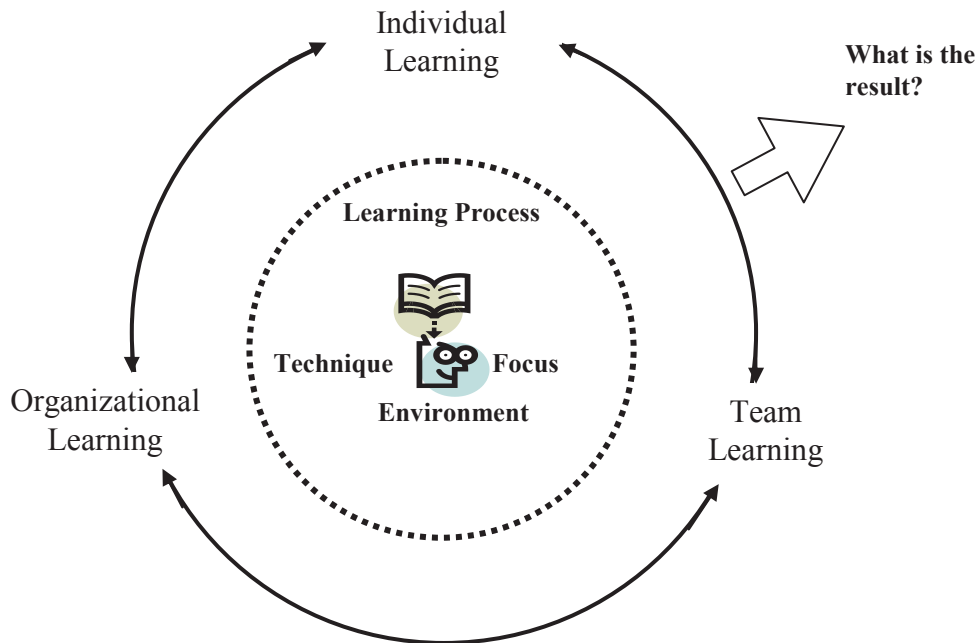


Figure 1 : Adaptaion from “A Learning Organization Model” by Micheal Kelleher, 1996, *The Learning Organization – From Metaphore to Model* and “A learning process model to achieve continuous improvement and innovation” by B. Buckler , 1996, *The learning Organization: An International Journal*, 3, 31-39.

### 1.1 Learning Organization

People in the organization need to become world class adapters in their working environment. There fore, they need to learn to examine their values, create visions, redesign their approach to problem solving and think systematically. Hence, building an organization that can truly learn need to develop a learning culture where people can learn and think. A learning organization supported by a learning culture helps to temperament and sustain a knowledge-creating system. According to Watskins and Marsick (1994), learning organization as one that learns continuously and change as it empowers the people, encourages collaboration and team learning, promotes open dialogue and acknowledge interdependence of individuals and organization. Critical reflection through meaningful dialogue, inquiry and feedback lies in a learning culture to make significant decisions. With regard to individual learning processes, individuals in organizations have been influenced by given policy, organizational culture, and interpersonal relationships (Sessa & London, 2006).

### 1.2 Organizational Culture

Organizational culture refers to a system of shared meaning and beliefs by the members of the organization and how they act ( Robbins, 2006) and learn while coping with environment and solving problems of external adaptation and internal integration ( Park et al. , 2004) which is not easily changed. In understanding learning culture, we need to identify elements of the culture that truly facilitate learning to learn.

Challenges and barriers include chronic themes relating to authoritarian, bureaucratic organizational structures, individualism and status seeking behaviours, prejudiced problem solving and decision making process, “us vs. them” mentality and disembodiment of the worker from the person. Societal and other organization influence create more threats to developing learning capacities (Mezirow, 1990). The barriers and learning disabilities abound in today’s organization and the transformation from hierarchal to democratic, from individualistic to team, from tunnel vision to system thinking is a slow evolutionary process. The practically wise organization will be able to sustain in dynamic, complex environments to accommodate the interest of multiple stakeholders. The work of authentic

educational leaders is transformational that need them to bring their deepest principles, beliefs, values and convictions to their work. The ethic of authenticity is at the very heart and soul of educational leadership (Duignan, 2006).

## 2. Methodology

Researcher developed explanations for a complex workplace learning phenomena from the perspective of a qualitative case study method. The study explores the learning processes and experiences of teachers in successful high performance schools. Having identified the schools, a purposeful sampling method (Yin, 2008) was used. Semi-structured face-to-face interviews were conducted with a total of 28 teachers, including principals, expert teachers, teachers in the middle administrative units, newly appointed teachers and senior teachers. The procedure for selecting participants was that of purposive sampling and snowballing. Interviews lasted from one to two an half hours in two sections, and were tape-recorded and transcribed.

Interviews were conducted using a semi-structured interview instrument, developed based on the review of the literature. The instrument was pilot-tested in one successful school with six in depth interview. The pilot test allowed the researchers to reword several interview questions and eliminate questions that seemed redundant and not relevant. In addition to the in depth interview data, researcher has a check list on spot observation randomly at selected places and times, and record what people are doing in the field notes. Besides that, documents produce not for the purpose of the study helps researcher to uncover meaning, develop understanding and discover insights relevant to the research problem. Some of the existing document such as planner, minutes of meetings, bulletins, reports etc were used to confirm with the interview data. This multiple methods of data collection enable researcher to compare and cross checking data collected from interviews, observations and documents shore up the internal validity of the data.

## 3. Data analysis

Analyzing is partly searching for patterns in data and for ideas to explain the patterns using certain tools to answer the research questions. The data were analyzed using qualitative research software Nvivo 8 to analyze the non-numeric data that have been collected through various sources. It helps to manage large number of data and by organizing it into a format where the researcher can more readily draw conclusions. The data obtained by interviews in the form of open-ended questions were coded and analyzed by profile matrices and proximity matrices. This included coding of individual interview data to identify major themes and categories, development of summary sheets for each interview, and development of cross-case data tables.

The qualitative analysis reported here involved an iterative process. The researchers started with coding the answers to open-ended questions, which resulted in identifying categories and issues pertaining to each of the questions. For example, to answer one of the questions, “What are the barriers to teachers’ contributing their ideas to their colleague?” the researchers content-analyzed not only those segments of the transcripts where a specific question about barriers was asked, but also the whole transcript, trying to find relevant discussions. The researcher first identified several categories of barriers mentioned by different respondents, and then re-analyzed the texts to see how many respondents had actually mentioned these barriers. The iterative analysis of the interview data involved was augmented by the documentation analysis and observation. This was accomplished by constantly referring to the information provided in the observation check list and documentation for checks and validation.

## 4. Finding

Teachers pursue professional Learning Processes that enable them to learn in their own unique ways. Findings tabulated in table: 1 shows that learning in this category is multi-faceted and dynamic. The organization offers structured formal and informal learning within the workplace but only lays the foundation for their continuous learning. Teachers also learn from opportunities organized outside their work place. Transferring of Knowledge occurs not only in the organization yet from outside the organization or other organization (Bhagat, Harveston & Triandis, 2000).

Contextual factors shaped the learning process among teachers. Teaching and learning contexts is the main learning domain. Learning in this domain occurs through planned and incidental professional learning process. Most teachers articulate their responsibilities and concerned to continuous learning in the teaching and learning contexts as individuals and teams. Only a few of the teachers distinguish the importance in managing a well balance professional practice at their schools.

Personal learning characteristics and attributes among teachers facilitate the learning process in schools. Teachers nurtured positive personal developmental traits, imperative to their learning process during the span of their career and committed them to produce successful achievements.

Table 1. Findings Tabulated into categories and sub categories.

Categories and Sub Categories		Minor Categories		
A. Learning Process	A1: Individual learning	A1.1 Active Learning	Reflection	
			Observation	
			Experience	
			Mistakes	
			Action Research	
			Practicing	
			Cources	
			Further Studies	
			Seminars	
	A1.2 Formal Learning		Briefings	
			Reading	
			visiting	
	A1.3 Passive Learning		Internet	
			Lectures	
			Asking Questions	
A2. Team Learning	A2.1 Dialogue		Telling stories	
			Demonstrate	
	A2.2 Networking			
	A2.3 Mentoring & Coaching			
	A2.4 Experience sharing			
	A2.5 Expert sharing			
	A2.6 Meeting	Discussions		
	A3. Organization Learning	A3.1 Documentation	Briefings	
		A3.2 Post-Mortem		
A3.3 Innovation				
B. Learning Attributes	B1. Individual		Mind setting	
			responsibility	
			Self-motivation	
	B2. External factor	accountability		
		Interest in learning		
C. Learning Climates	C1. Internal	environment changes		
		policy		
			Attitude	

		Work load
		Comfort zone
		rewards
	C1.2 Management	support
		planning
	C1.3 Colleague	Support
		Communication
C2. External	C2.1 Stake holders	Parents
		Community
	C2.2 Education System	Curriculum

---

## 5. Discussion

The study developed explanation of learning process phenomena at different levels from the perspective of teachers. Teachers decide to learn in many ways through their own will, understanding, opportunity, enduring the search for achievement.

### 5.1 Multiple Strategies of Learning

Teachers in this study followed multiple ways and styles of learning at individual, team and organization learning process. They have learnt through experiences, hands-on, reflection in action and observation amounting to experiential learning. Informal and incidental learning is the heart of adult learning because it is learners centred and the lesson can be learnt from life experiences (Marsick and Watkins, 2001). Learning by doing, learning from others or learning on its own is a major part of the learning process occurred in the research. Teachers always work by doing, whether they work alone, with someone helping them or being supervised. Learners plan their action in order to achieve intended outcome and reassess their action for effectiveness. In this study, teachers do action research to improve their performance. Lewis and Williams (1994), learning occurs in the process of finding out or providing solution that constitute action learning.

Teachers are more confident about their professional learning after getting formal training from expertise. Then they will continue to learn informally by themselves or as teams. Their need to learn requires approaches to mote traditional pedagogical method (Marsick and Watkins, 2001). In this study, teachers attend courses, seminars, briefings and also further their studies to get expertise assist. Teachers are more complaisant to work together in the own subject committee. They meet and discuss methods in Teaching and Learning to improve their student's achievements. These could be taught to new members as the correct way to perceive, think and feel when they encounter the same problems. Expertise in the subject matter does coaching to help the other teachers in the similar subjects taught in order to achieve better results. Innovation occurs in a smaller scale and not sharing out of the band. Learning occur and building of knowledge happens during interaction among individuals and groups (Wenger, 2000; Van Wijk, *et al.*, 2003; Von Krogh, 2003)

### 5.2 Learning Climate

Learning in the universe is a continuous process. Continuous Learning Organization is one in which people at all hierarchies, individuals and team, are continuously increasing their capacity to achieve their goals. There is no perfect individual or organization, so organization need to encourage learning and promote exchange of information between employees that helps in creating a more knowledgeable workforce. It needs a flexible organization to work towards its shared vision with the help of innovative ideas from individuals in it. The culture of organization plays an important role in the establishment of a continuously learning organization. The primary factors are environment, empowerment, leadership, awareness, learning and teamwork (Watkins, 2005).

The climate of the organization influences the behaviour of its members. Unwilling and uncooperative working staff sometimes acts as barriers to the learning environment. In schools, the culture of learning exist mainly at single loop phase that doesn't encouraged innovation, creativity and developing wise decision making among teachers. These barriers are contributed by internal and external factors such as a working culture that thrives on changes, encourages experimentation and innovation, risk taking and sense of caring. The effectiveness of learning was influenced by teachers' personal dispositions, by departmental cultures and

their mix of collaboration and individualism and leadership style, and by school management and national policy and regulation (Beltmen, 2009).

Action research is an element of active learning where individuals have to reflect, enquire and solve problems that occur. It has been introduced to mostly all schools and yet it has not been part and puzzled of the teachers to create and improvise their teaching. Teachers deliberately say that they do not have the time to think and to do research. Their daily workload besides their core business is very demanding. Moreover, there is no reward or requirement in producing a research among teachers except for the expert teachers. If a person is unable to step aside to think and reflect before they move forward will dampen them from developing creativity and practicing wise decision making. Further this will also discourage the growth of the organization.

Team members communicate their progress on these tasks regularly in meetings. This builds a sense of ownership for the tasks taken up by them. Subtle competition also arises among the team members and they begin to work with more conviction towards accomplishing assigned tasks. Such a sense of commitment and ownership in every individual ends up in effectively accomplishing the final goal of the team. Not all teachers want to share their experience and expertise because not all teachers want to listen to them. The culture of sharing has not been part of the teachers. Learning may occur in individuals or in groups but the transference from one level to the other may be impeded by organizational norms (Crossan and Hulland, 2002).

### *5.3 The contextual factors*

Leadership role and organizational culture are some possible motivators to build a learning organization (Chang & Lee, 2007). Hence, understanding and respecting the various learning styles of individuals, designing the jobs around the individual, promoting team learning, creating a safe environment, articulating a vision, nurturing a systems thinking philosophy, and encouraging organizational alignment are the keys to implementing and maintaining a learning organization in order to be creative and innovative. Teachers are not restricted to learnt and they are free to even have open dialogue and discussion to achieve the school's vision and mission.

Leaders in schools are also bound to the stake holders such as the ministry, parents and alumni. The community rank schools according to the results achievement so we need to fulfil these requirements. Results have been consciously playing in the mind of our teachers so our activities are also geared towards it. Teachers will start to drill students to achieve more A's and do not develop creative and innovative students. Hence, teachers do not have to think to improvise or generate creative thinking.

Continuous learning is very essential to be inline with the changing system but our education system is restricted to the syllabus and exam oriented. Teachers only need to gather more questions and drill their students. Time is very consuming that leads to teacher centred and not developing essential learning process among students too. Teachers also claim that there is no need to look for new information because syllabus is restricted to the text book and this confused their students.

Appropriate working facilities encourage learning among teachers. The number of computer in school and excess to internet helps to gain new information and learnt new things. Some schools do not have internet coverage at their working place and need to do homework in preparing materials for the students. Some schools provide good facilities but they are able to browse through only certain areas because they share with the students. Workplaces with several features of expansive learning environments support and develop opportunities for learning (Hodkinson & Hodkinson, 2005).

Team members communicate their progress on these tasks regularly in meetings. This builds a sense of ownership for the tasks taken up by them. Subtle competition also arises among the team members and they begin to work with more conviction towards accomplishing assigned tasks. Such a sense of commitment and ownership in every individual ends up in effectively accomplishing the final goal of the team. Not all teachers want to share their experience and expertise because not all teachers want to listen to them. The culture of sharing has not been part of the teachers. Learning may occur in individuals or in groups but the transference from one level to the other may be impeded by organizational norms (Crossan and Hulland, 2002). Leithwood et al., 1998 reported the conditions of fostering Learning Organization in elementary and secondary schools base on collaborative and mutually respectful school culture that include norms of mutual support, respect for colleague's ideas.



#### 5.4 Teachers attributes

There are differences in learning at the higher level of knowing or the artistry of knowing, there for knowledge should be used in the right context. To sustain the ability to know, teachers develop characteristic and norms, which apparent themselves as necessary to learning. Teachers in this study who are committed have accidentally accounted for their thoughts and actions. They embarked on their own form of analytical thinking, by anticipating their problems and creatively thinking of solutions and practical ways of handling situations as it comes. Innovation propels the development of learning capabilities (Polley and van de Ven, 1996; Weerawardena *et al.*, 2006). All of these studies assume that organization is engaged in the process of learning and actual learning is occurring. However, two organization that follow the same set of procedures still arrive at very different destinations because of what each puts into the process and what each gets out of it, i.e. what each has learned.

Expert teachers took responsibility to learn and acquire more in their own self-organized and self-styled ways. Some teachers were proactive in managing their own learning but most of them were in the comfort zone because they have been teaching the same subject and mastered the context. Younger teachers look forward to attending courses. It was realized that teachers developed an independent self-concept about their own learning. Cunha, Cunha and Kamoche (2002) suggest that an open minded and, indeed, creative approach to errors may serve as the trigger for organizational improvisation and learning. Study shows that accepting responsibility, and self motivated with vision is the important beginning in the learning process among teachers. The mind setting and interest to gain more knowledge besides improving one-self is where adults develop their initiative to learn. The decision to seek knowledge and self development arising from dissatisfaction can be viewed from “Personal Responsibility Orientation” (Brockett & Hienmstra, 1991).

#### 6. Conclusion

The case in this study is that teachers need to continuously create and explore opportunities on their own to learn not only the Teaching & Learning but at a wider scope to acquire expertise to operate in school context. New knowledge emerge in accidental learning domain were documented for references helps the school community to learn more. Learning occurs when learners are committed to strategies that support discoveries and transformation. The opportunity to learn and practices learning is important for high potential teachers. At the individual level, creativity is relevant when solving problems on job and in daily life whereas at the society level creativity leads to new scientific findings, new movement in art, new inventions and new social programs (Sternberg, 2003).

This case study shows that there are some supportive conditions for strengthening the creativity of the teachers is to build the culture of learning and learning together. There is a need to detect and correct mistakes that need individuals to be reflective and self-aware, to be open minded, honest and balanced in their accounts, to continually monitor their expressions so that they are congruent with their values and beliefs and to communicate these values transparently in becoming a wiser person. There are differences directly affecting the balance process in terms of goals, responses to environmental context, interest, acquisition and utilization of tacit knowledge and values. These differences produce variations in how wise people are and how well they can apply their wisdom in different kinds of situations (Sternberg, 2003).

Organizational learning can be conceived of as ‘a process of change in thought and action’ (Vera and Crossan, 2004: 224). However, during at every level of these processes: individual, group and organizational there are barriers to change. Individuals, including organizational leaders, may engage in defensive routines that inhibit their learning because they need not take the risk of being different from others but continue without making changes and will succeed. They do not need to be creative or innovative in order to develop the students just because drilling will do. Besides that, the community of interest sees results as the school achievement and why principals should be too ambitious and just send their teachers for certain courses dealing with their subject and pedagogical matter.

This study concludes that successful teachers possess the professional competence to excel in the professional learning process at the deliberate learning domain. They also have the characteristic to succeed in their profession. However, the lack of comprehensive climate and support make learning among teachers in schools do not lead to organizational learning at full force.

## References

- Brockett, R.B., & Hiemstra, S. (1991). *Theory in Practice: Increasing professional effectiveness*. San Francisco: Jossey-Bass.
- Fenwick, T. (2003), "Innovation: examining workplace learning in new enterprises", *Journal of Workplace Learning*, Vol. 15 No.3, pp.123-32.
- Gasoling, J. and Mintsberg, H. (2004). "The Five Minds of a Manager". *The Weekend Australian Financial Review*, Summer: 64-65
- Hodkinson, H., & Hodkinson, P. (2005). Improving schoolteachers' workplace learning. *Research Papers in Education*, 20(2): 109-131.
- Ismail, M. (2005), "Creative climate and learning organization factors: their contribution towards innovation", *Leadership & Organization Development Journal*, Vol. 26 No.7/8, pp.639-55.
- Lewis, L.H. & William, C.J. (1994). Experiential learning past and present. *New Directions For Adult and Continuing Education*, 6(2), 5-16.
- Marsick, V. J. and Watkins, K. E. (1994.) *The Learning Organization: the integrative vision for HRD*. Human Resources Quarterly. 5: 353 -360.
- Mezirow, J. and Associates, (1990.) *Fostering Critical Reflection in Adulthood*. San Francisco: Jossey-Bass.
- Ng, P.T. (2004), "The learning organization and the innovative organization", *Human Systems Management*, Vol. 23 No.2, pp.93-100.
- Polley, D., van de Ven, A.H. (1996), "Learning by discovery during innovation development", *International Journal of Technology Management*, Vol. 11 No.7/8, pp.871-83.
- Prusak, L. and Davenport, T. 2003. "Who are the Gurus' gurus?". *Harvard Business Review*, Vol 81 (12): 14 16.
- Rowley, J. and Gibbs. P. (2008). From learning organization to practically wise organization. *The Learning Organization*. Vol. 15(5): 356 -372.
- Sessa, V. I., & London, M. (2006). *Continuous learning in organizations: Individual, group, and organizational perspectives*. Mahwah, NJ: Lawrence Erlbaum.
- Sternberg, R. J. (2003). *Wisdom, Intelligence and Creativity Synthesized*. New York: Cambridge University Press.
- Susan Beltman. (2009). Educators' motivation for continuing professional learning. *Issues in Educational Research*. 19(3): 193 – 211
- Teo, H., Wang, X., Wei, K., Sia, C., Lee, M.K.O. (2006), "Organizational learning capacity and attitude toward complex technological innovations: an empirical study", *Journal of the American Society for Information Science and Technology*, Vol. 57 No.2, pp.264-79.
- Weerawardena, J., O'Cass, A., Julian, C. (2006), "Does industry matter? Examining the role of industry structure and organizational learning in innovation and brand performance", *Journal of Business Research*, Vol. 59 No.1, pp.37-53.